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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,313	10/09/2003	Goetz Baumgarten	080437.52614US	7975

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EXAMINER	
LOUIS JACQUES, JACQUES H	

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	**Application No.** 10/681,313	**Applicant(s)** BAUMGARTEN, GOETZ	
	Examiner Jacques H. Louis-Jacques	**Art Unit** 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 3, 6-8, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishizaki et al [US 20020013646 A1] in view of Tozu et al [6,324,445].

Nishizaki et al discloses a motor vehicle steering system having a yaw rate controller (figure 1 and page 3). The controller, according to Nishizaki et al, continuously detects a yaw rate (γ) representing the vehicle yawing motion and forms a control signal as a function thereof, and which causes a steering movement which counteracts the undesired yawing motion See page 3. According to Nishizaki et al the control signal in the case of a control intervention of a brake control system is formed differently than when the vehicle is braked without such a control intervention (page 4). Furthermore, Nishizaki et al discloses that the control signal is determined from the deviation between a desired (target) yaw rate value (γ^*) and the actual yaw rate value (γ) during a controlled braking operation (pages 3 and 4). See also figure 3. In addition, Nishizaki et al also discloses a braking operation being detected based on one of activation of a vehicle brake light switch and pressure change in the hydraulic vehicle braking system (page 5). While Nishizaki discloses controlling the yaw rate during braking operation and during low speed operation, Nishizaki et al does not particularly teach that 'in the event of a controlled braking operation, the control signal is formed by means of at least one amplification factor that differs from an amplification factor that is used in the unbraked driving condition." Tozu et al, on the other hand, discloses a yaw rate detecting system for a vehicle, wherein there is provided a yaw rate sensor (YS) for detecting an actual yaw rate value, a desired yaw rate device (YT) for determining a desired yaw rate value, and a deviation calculation device (YD) for determining a deviation between the desired yaw rate value and the actual yaw rate value. According to Tozu et al, a control signal is formed based on the yaw rate deviation; wherein the control signal is different depending on the driving conditions of the vehicle. That is, according to Tozu et al, the control signal when the vehicle is driving (i.e. the vehicle speed exceeds certain value) is different that the control signal when the vehicle is stopping (i.e., during braking operation or when parking switch is on). See figures 1, 4 and columns 2-3 and 4-5. Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the motor steering system of Nishizaki et al by incorporating the features from the yaw rate detecting system of Tozu et al because such modification would improve the control stability of the vehicle.

3. Claims 3, 6-8, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishizaki et al [US 20020013646 A1] in view of Matsuno [6,155,655].

Nishizaki et al discloses the limitations as set forth above. However, as also mentioned above, while Nishizaki discloses controlling the yaw rate during braking operation and during low speed operation, Nishizaki et al does not particularly teach that 'in the event of a controlled braking operation, the control signal is formed by means of at least one amplification factor that differs from an amplification factor that is used in the unbraked driving condition." Matsuno, on the other hand, discloses a yaw braking force control system and the method thereof, wherein there is provided an actual yaw rate detecting section for detecting an actual yaw rate, a desired or target yaw rate section for calculating a target yaw rate and a yaw rate deviation calculating section for calculating a yaw rate deviation. According to Matsuno, the yaw rate gain or factor is determined based on the yaw rate deviation; wherein the yaw rate factor when the vehicle is braking (i.e., brake is on) is different than when the vehicle is not braking (i.e., vehicle is driving or brake is not on). See figure 4 and columns 1-2 and 5-6. Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the steering control system of Nishizaki et al by incorporating the features from the yaw braking control system of Matsuno because such modification would provide a smooth and stable control of the vehicle.

4. Claims 4-5, 9-10, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishizaki et al in view of Tozu et al, in the alternative Matsuno as applied to claims 3, 7 and 11 above, and further in view of Nagaoka [5,386,365].

Neither the combination of Nishizaki et al/Tozu et al nor Nishizaki et al/Matsuno particularly discloses the proportional component and the integral component of the control signal. However, Nagaoka discloses a rear wheel steering system for a vehicle including a yaw rate sensor and a yaw rate feedback controller that uses a control signal based an actual yaw rate detected by the yaw rate sensor and a desired (target) yaw rate. Nagaoka discloses a feedback control that is in the form of a PDI control having an integral component or constant (KI) and a proportional component or constant (FP). See columns 7 and 8. Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the combination of Nishizaki et al and Tozu et al or Nishizaki et al and Matsuno by incorporating the proportion and integral components from the steering system of Nagaoka because such modification, as suggested by Nagaoka (column 1), would improve driving stability of the vehicle.

Response to Arguments

5. Applicant's arguments filed November 23, 2005 have been fully considered but they are not persuasive.

With regard to the Information Disclosure Statement, it is noted that the Search Report only lists the documents as being X, Y, or A reference. However, according to MPEP 609.04(a)(III), the concise explanation of relevance of 37 CFR 1.98 can be satisfied by submitting an English-language version of the search report or action which indicates the degree of relevance found by the foreign office. This may be an explanation of which portion of the reference is particularly relevant, to which claims it applies, or merely an "X", "Y", or "A" indication on a search report. The IDS has been considered based on the indication on the search report that the references are "X", "Y", or "A" reference.

With regard to the prior art rejection, Applicant argued that the combination of Nishizaki and Tozu does not disclose or suggest that "in the event of a controlled braking operation, the control signal is formed by means of at least one amplification factor that differs from an amplification factor that is used in the unbraked driving condition." Applicant contended, “the amplification factors ... are different for braked and unbraked conditions.” According to Applicant, neither Nishizaki nor Tozu nor the combination therefore teaches different amplifications for braked conditions and unbraked conditions. The examiner respectfully disagrees.

The examiner recognizes that Nishizaki, when taken alone, does not teach amplification factors that are different for braked and unbraked conditions. However, Tozu cures that deficiency in Nishizaki.

Tozu et al discloses a yaw rate detecting system for a vehicle, wherein a stopped (braked) state of the vehicle is determined and point value (i.e., amplification factor) is set. In fact, Tozu et al also discloses a stoppage (braking) determining device (PD) that feeds signal to a zero point setting device (ZS). See figure 1. In addition, Tozu et al discloses a vehicle speed detecting device for providing a signal indicative of an unbraked condition, i.e., the vehicle is moving. Based on the unbraked condition (as determined by the vehicle speed detecting device), point value is determined. The point value for the braking (stoppage) condition is different that the point value for the unbraked condition in that a correcting device is provided to determine a deviation therebetween. See figure 1, column 2, 4. Furthermore, in columns 7 and 8, Tozu et al discloses the conditions when the vehilcle is in motion or not in motion in order to initiate the steering control. See in particular column 8 and figure 4.

Applicant argued that Tozu does not disclose that the zero point is formed "in the event of a controlled braking operation." As pointed out above in reference to figures 1 and 4, columns 2, 4 and 8, in particular, Tozu et al discloses such feature. In fact, Tozu et al discloses a stoppage device for determining when the vehicle is in a stopped (braked) condition.

Additionally, Matsuno different rate gains or factors based on whether the vehicle is braking or driving. As demonstrated in the above rejection, Matsuno discloses, in figure 4 and columns 1-2 and 5-6, that the yaw rate factor when the vehicle is braking (i.e., brake is on) is different than when the vehicle is not braking (i.e., vehicle is driving or brake is not on).

In addition, the combination of Nishizaki, Tozu et al and Nagaoka is well supported by the rejection as set forth in the office action.

It has been shown that Tozu et al discloses both the braked (stopped) condition and the unbraked (driving) condition and determines different amplification factors based on the conditions.

Nagaoka, as applied in the above rejection, discloses a proportional component and an integral component of the control signal. As described in columns 7 and 8, Nagaoka discloses a feedback control that is in the form of a PDI control having an integral component or constant (KI) and a proportional component or constant (FP).

The combination of Nishizaki and Tozu et al, Matsuno and Nagaoka meets the claimed limitations of the claims of the present application.

Accordingly, the rejections are sustained and this office action is made final.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,228,757	Ito et al	Jul. 1993
5,869,943	Nakashima et al	Feb. 1999
6,941,212	Sakata	Sep. 2005

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H. Louis-Jacques whose telephone number is 571-272-6962. The examiner can normally be reached on M-Th 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques H Louis-Jacques
Primary Examiner
Art Unit 3661

/jlj

JACQUES H. LOUIS-JACQUES
PRIMARY EXAMINER